

## Homework2

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### Question 1

- 1) CREATE TABLE PERSON(  
    ID VARCHAR(45) NOT NULL,  
    FirstName VARCHAR(45) NOT NULL,  
    LastName VARCHAR(45) NOT NULL,  
    Address VARCHAR(45) NOT NULL,  
    Salary VARCHAR(45) NOT NULL,  
    PRIMARY KEY (ID));
- 2) INSERT INTO PERSON (ID, FirstName, LastName, Address, Salary) VALUES  
    ('101', 'Lamar', 'Odom', 'Log Angeles', '10000');  
    INSERT INTO PERSON (ID, FirstName, LastName, Address, Salary) VALUES  
    ('102', 'Michael', 'Jordan', 'Chicago', '20000');  
    INSERT INTO PERSON (ID, FirstName, LastName, Address, Salary) VALUES  
    ('103', 'Allen', 'Iverson', 'Philadelphia', '30000');  
    INSERT INTO PERSON (ID, FirstName, LastName, Address, Salary) VALUES  
    ('104', 'Vince', 'Carter', 'Toronto', '40000');  
    INSERT INTO PERSON (ID, FirstName, LastName, Address, Salary) VALUES  
    ('105', 'Dwyane', 'Wade', 'Miami', '50000');
- 3) select ID, FirstName, LastName from PERSON where PERSON.LastName like "%m";
- 4) select avg(salary) from PERSON where ID between 101 and 104;
- 5) create view RICH\_PERSON as  
    select ID, FirstName, LastName  
    from PERSON  
    where salary>12500;

## Question 2

```
CREATE TABLE BookPublish(  
    book VARCHAR(45) NOT NULL,  
    year INT NOT NULL,  
    publisher VARCHAR(45) NOT NULL,  
    price INT NOT NULL,  
    num INT NOT NULL,  
    PRIMARY KEY (book));
```

```
CREATE TABLE BookAuthor(  
    book VARCHAR(45) NOT NULL,  
    author VARCHAR(45) NOT NULL,  
    earnings INT NOT NULL,  
    PRIMARY KEY (book,author),  
    FOREIGN KEY (book) REFERENCES BookPublish(book)  
);
```

```
CREATE TABLE BookReference(  
    book VARCHAR(45) NOT NULL,  
    referencedBook VARCHAR(45) NOT NULL,  
    PRIMARY KEY (book,referencedBook),  
    FOREIGN KEY (book) REFERENCES BookPublish(book)  
);
```

```
CREATE TABLE BookReview(  
    book VARCHAR(45) NOT NULL,  
    reviewer VARCHAR(45) NOT NULL,  
    score INT NOT NULL,  
    PRIMARY KEY (book,reviewer),  
    FOREIGN KEY (book) REFERENCES BookPublish(book)  
);
```

- 1) select book from BookReview as R  
 where exists(select book from BookPublish as P  
 where P.book=R.book and P.year=1999 and R.reviewer="Paul Gray");
- 2) select book from BookReview as B1  
 where exists (select book from BookReview as B2  
 where B1.book=B2.book and B1.reviewer="Paul Gray" and B2.reviewer="Daphne Merkin");

- 3) select sum(earnings) as total from BookAuthor as B1  
where exists(select \* from BookPublish as B2  
where B1.book=B2.book and B2.year between 1995 and 2000)  
group by B1.author  
order by total desc;

### Question 3

- 1) select student\_id, name from Student  
where department="Computer Science";
- 2) select distinct E.student\_id from Enrolls as E, Teaches as T, Instructor as I  
where T.instructor\_id=I.instructor\_id  
and E.number=T.number  
and E.year=T.year  
and E.semester=T.semester  
and E.section\_number=T.section\_number  
and I.name="John";
- 3) select S.student\_id from Student as S  
where S.student\_id not in  
(select distinct E.student\_id from Enrolls as E, Teaches as T, Instructor as I  
where T.instructor\_id=I.instructor\_id  
and E.number=T.number  
and E.year=T.year  
and E.semester=T.semester  
and E.section\_number=T.section\_number  
and I.name="John");
- 4) select department, count(student\_id) from Student  
group by department;
- 5) select I.name, T.number, T.section\_number, T.year, T.semester, count(E.student\_id)  
from Instructor as I, Teaches as T, Enrolls as E, Course as C  
where T.instructor\_id=I.instructor\_id  
and E.number=T.number  
and E.year=T.year  
and E.semester=T.semester  
and E.section\_number=T.section\_number  
and E.number=C.number  
and C.title="CSCI"  
group by I.instructor\_id, T.number, T.section\_number, T.year, T.semester;